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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,147	11/13/2006	Hartmut Sauer	68001-005US1	1768
69713	7590	08/07/2008		
OCCHIUTI ROLHLICEK & TSAO, LLP			EXAMINER	
10 FAWCETT STREET			KASHNIKOW, ERIK	
CAMBRIDGE, MA 02138			ART UNIT	PAPER NUMBER
			1794	
NOTIFICATION DATE		DELIVERY MODE		
08/07/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@ORTPATENT.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,147	<b>Applicant(s)</b> SAUER, HARTMUT
	<b>Examiner</b> ERIK KASHNIKOW	<b>Art Unit</b> 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

- 1) Responsive to communication(s) filed on 14 October 2005.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 November 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-166/08)  
 Paper No(s)/Mail Date 03/03/2006
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **1, 2, 3 and 4.** Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-21 provides for the use of an article, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-21 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 9 recites the broad recitation fiber reinforced polymer, and the claim also recites glass fiber reinforced polymer which is the narrower statement of the range/limitation. Similar language is found in claim 8.

6. Also in claim 15 the broad recitation "maximum 25%" and the claim also recited "maximum 15%" which is the narrower statement of the range/limitation.

7. Claims 12, 19 and 20 are rejected for improper Markush language. It is advised that in each of the claims after the word "group" that the word "consisting" is added (MPEP 2173.05(h) section I).

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-7, 11, 12, 13, 15 and 21 rejected under 35 U.S.C. 102(b) as being anticipated by Metaplast Company INC, hereinafter Metaplast (GB 656,397).

10. In regards to claims 1, 4, 12, and 13 Metaplast teaches a process which coats the surface of a polymer substrate, including a polystyrene (column 1 lines 10-15) with a metal, wherein said process does not use external current.

11. In regards to claims 2, 6, 7, 11, 13 and 15, since the materials are the same and it the process for depositing the metal is the same, the properties disclosed therein would be inherent.

12. In regards to claim 1 since the materials and the process for depositing the metal is the same the adhesive strengths would therefore be inherent.

13. In regards to claim 3 Examiner is treating it as a product by process claim, specifically regarding how the item is not made. It has been shown that even though

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (MPEP 2113 and *In re Thorpe*, 777F.2d 695, 698, 227 USPQ 964, 966). Examiner also points out that the method taught by Metaplast follows the steps of blasting and rinsing to obtain the deposit (page 2 lines 45-48 and page 2 line 128 – page 3 line5).

14. In regards to claim 5 Metaplast teach that the metal onto the plastic layer and then further coating the metal layer by electroplating (page 3 lines 95-110).
15. In regards to claim 21 Metaplast teach that the article can be used for decorative purposes (page 3 lines 95-97).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Fadgen Jr et al. (US 3,607,352).

18. As stated above Metaplast teach a substrate coated with a metallic layer with out an electric current, however they are silent regarding the use of nickel as well as coating someplace besides the outer surface of the substrate.

19. In regards to claim 17 Fadgen Jr et al, who teach electrolessly plating non metallic surfaces (column 4 lines 10-11), teach nickel as a preferred metal used to coat the substrates (claim 20).One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Metaplast with that of Fadgen Jr et al. because the invention of Metaplast which offers a dependable product that is relatively inexpensive to make (page 1 lines 5-10) would benefit from the lack of skip plating formed from the invention of Fadgen Jr et al (column 7 lines 5-15).

20. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Giltrow et al. (US 3,674,689).

21. As stated above Metaplast teach a substrate with metal coatings however they are silent regarding the substrate being a fiber reinforced substrate.

22. In regards to claim 8 Giltrow et al. teach carbon fiber reinforced substrates with diameters between 5-15 µm (column 1 lines 42-55 and column 3 lines 42-50).

23. One of ordinary skill in the art at the time of the invention would be motivated to modify the substrate of Metaplast with the polymer reinforced substrate of Giltrow et al. because the polymer of Giltrow et al offers low wear rates (column 1 lines 15-17).

24. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Giltrow et al. (US 3,674,689) and Shaw et al. (US 4,643,940).

25. As stated above Metaplast teach a substrate with metal coatings however they are silent regarding the substrate being a glass fiber reinforced substrate.

26. In regards to claims 9 Shaw et al. teach that common fiber reinforcing materials are carbon and glass (column 1 lines 7-12).

27. In regards to claim 10 since the same materials are taught, this would be an intrinsic property.

28. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Metalplast and Gilbert et al, with that of Shaw et al. because Shaw et al. offer high flexural strength and stiffness (column 1 lines 20-25).

29. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Fagden Jr et al. (US 3,607,352) and Lemelson (US 4,093,693).

30. As stated above Metaplast and Fagden Jr teach a substrate with metal coatings however they are silent regarding embedding the metal with non metallic particles.

31. In regards to claim 18 and 19 Lemelson teach it is well known to add silicon carbide to metals to reinforce the matrix (column 1 lines 15-20 and column 9 line 58 column 10 line 5).

32. One of ordinary skill in the art at the time of the invention would be willing to modify the invention of Metaplast and Fagden Jr with that of Lemelson because the invention of Lemelson offers reinforcement of the metal (column 1 lines 49-54).

33. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Lemelson (US 4,093,693) and Stenzel et al. (US 5,648,620).

34. As stated above Metaplast in view of Lemelson teach a substrate with metal coatings however they are silent regarding the friction reducing additive.

35. In regards to claim 20 Stenzel et al. teach that it is known to embed molybdenum sulphide in metal substances to increase friction reducing properties (claim 18).

36. One of ordinary skill in the art at the time of the invention would be motivated to use the Molybdenum of Stenzel et al. in the invention of Metaplast and Lemelson et al. because of the low friction and wear offered by Stenzel (column 2 lines 48-67).

37. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Kurfman (US 4,510,208).

38. As stated above Metaplast teach a substrate with metal coatings however they are silent regarding polypropylene and metal alloy layers.

39. In regards to claim 14 Kurfman teaches polypropylene and PTFE are useful substrates for coating with a metal layer or layers (column 6 lines 1-25).

40. In regards to claim 16 Kurfman teaches that metal alloy layers are desirable for coating on to polymer substrates (column 1 lines 48-55).
41. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Metaplast with that of Kurfman because the invention of Kurfman offers superior structural properties (column 5 lines 60-67).
42. Claims 1-7, 11, 12, 13, 15, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metaplast (GB 656,397) in view of Fadgen Jr et al. (US 3,607,352).
43. As stated above Metaplast teach a substrate coated with a metallic layer with out an electric current, however they are silent regarding the use of nickel as well as coating someplace besides the outer surface of the substrate.
44. In regards to claim 5 it would be obvious to, as well as within the skill level of, one of ordinary skill in the art to have the non metallic substrate not be the surface of the article, the position of the nonmetallic substrate would depend on the intended use of the article.
45. In regards to claim 17 Fadgen Jr et al, who teach electrolessly plating non metallic surfaces (column 4 lines 10-11), teach nickel as a preferred metal used to coat the substrates (claim 20).One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Metaplast with that of Fadgen Jr et al. because the invention of Metaplast which offers a dependable product that is relatively

inexpensive to make (page 1 lines 5-10) would benefit from the lack of skip plating formed from the invention of Fadgen Jr et al (column 7 lines 5-15).

46. In regards to claims 1-6, 7 11-13, 15 and 21 since the materials for the composite layer are taught, i.e. an identical non metallic layer and metallic layer as presently claimed, as well as by a process as presently claimed all the properties would again be intrinsic.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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